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EXAMINER	
DAGER, JONATHAN M	

ART UNIT	PAPER NUMBER
3663	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,001	GRONAU ET AL.	
	Examiner	Art Unit	
	JONATHAN M. DAGER	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *1-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 5 filed 30 September 2009, with respect to the objection of claim 18 have been fully considered and are persuasive due to amendment. Therefore, the objection to claim 18 has been withdrawn.

2. Applicant's arguments, see page 5 filed 30 September 2009, with respect to the rejection of claim 13 under 35 U.S.C. 112, 2nd paragraph, have been fully considered and are persuasive due to amendment. Therefore, the rejection of claim 13 under 35 U.S.C. 112, 2nd paragraph has been withdrawn.

3. Applicant's arguments, see page 5 filed 30 September 2009, with respect to the rejection of claim 11 under 35 U.S.C. 102(b) have been fully considered and are persuasive due to amendment. Therefore, the rejection of claim 11 under 35 U.S.C. 102(b) has been withdrawn.

Subsequently, the prior art rejections of all claims dependent therefrom are withdrawn.

However, upon further consideration, new grounds of rejection are warranted (see below).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 11-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 11 recites that "…wherein at least partly controlling includes maintaining the vehicle speed at the uniform vehicle speed when a difference between the actual vehicle speed and the uniform vehicle speed is less than a predetermined speed difference."

In restating the above embodiment, the Applicant has on the record defined the embodiment that as " Stated differently, if the vehicle speed error is less than the predetermined speed difference then the method does *not* attempt to correct the vehicle speed." (see remarks filed 30 September 2009, page 5, sixth paragraph).

The specification does state that when the deviation between the vehicle speed and the target speed exceeds a certain predefined limit, the vehicle is automatically accelerated/decelerated (see, for example, the current specification at 0023).

However, the negative limitation amended to independent claim 11 is not explicitly stated within the current specification.

Subsequently, all claims descendent therefrom are rejected to under identical grounds due to dependency and/or similar embodiments.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the vehicle speed" in the amended embodiments. There is insufficient antecedent basis for this limitation in the claim.

Subsequently, all claims dependent therefrom are rejected under identical grounds due to dependency and/or similar terminology.

Claim Rejections - 35 USC § 102

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Cikalo (US 6,470,256).

Regarding claim 11, Cikalo discloses that the present invention provides a vehicle cruise control system having an electronic precision speed controller (PSC) 10 controlling the operation of an electronic throttle body (ETB) 12. The PSC 10 includes an input/output (I/O) module 14, a microprocessor 16 and a memory module 18. These components are suitably coupled so that the PSC processor 16 can receive input signals from various vehicle components via the I/O module 14 and process them according to algorithms stored in the memory module 18 to operate the

ETB 12. Such vehicle components include a battery 20, speed sensor 21, accelerator pedal 22, clutch 23, brake 24 and operator input device 25. The system also includes a display 27 with cruise mode 29 and fuel economy cruise mode 31 indicators that illuminate when the PSC 10 is operating in either of the cruise modes. The display 27 receives the appropriate signal from the PSC 10 via the I/O module 14. It should be noted that the vehicle components 20-25 and display 27 are shown having a separate wire connection to the PSC 10, however, they could also be connected together via a suitable vehicle bus using a suitable operating protocol, such as SCP (Standard Corporate Protocol) (column 3 lines 42-63). The cruise mode is an automated engine throttle control wherein the driver inputs to the PSC 10 a cruising speed using a steering column mounted cruise control button 25. Once the desired cruising speed is set, the driver no longer needs to use the accelerator pedal, brakes or any other device to maintain the set speed of the vehicle. The fuel economy cruise mode is a fuel saving setting of the present invention wherein the vehicle speed is maintained within an acceptable deviation from the desired cruising speed, as described below (column 4 lines 18-37).

Thus, Cikalo discloses a cruise control adaptation, the method comprising determining a request from a driver for a uniform vehicle speed, and after identifying the request for uniform vehicle speed, at least partly controlling modifications to the vehicle speed, which are not initiated by the driver, in order to obtain a lowest possible fuel consumption for the driving engine of the vehicle.

Cikalo discloses that the present invention provides a vehicle cruise control with a fuel economy cruise mode that reduces the amount of fuel consumed by the vehicle. In the fuel economy cruise mode, the cruise control eliminates changes in engine throttling within a given

deviation from the desired cruising speed. Moreover, the cruise control can provide initial throttle adjustment at less than normal rates during and when exiting the fuel economy cruise mode. Thus, the present invention reduces fuel costs and exhaust emissions into the environment (column 1 lines 66-67, column 2 lines 1-8).

Thus, it is disclosed wherein if the vehicle speed error is less than the predetermined speed difference then the method does not attempt to correct the vehicle speed.

Therefore, Cikalo discloses all embodiments of claim 11 under 35 U.S.C. 102(b).

Regarding claims 12 and 13, Cikalo discloses that it is known in U.S. Pat. No. 5,944,766 discloses a cruise control having control algorithms designed to improve the fuel economy of the vehicle. When it is sensed that the vehicle is gaining momentum, the algorithms instruct the speed controller to override the normal control of the throttle and set back the throttle position to a prescribed percentage (such as 50% or 80%) of its normal position. Thus, fuel consumption is minimized during and after the vehicle travels down hill. As such, the disclosed cruise control has only limited fuel saving benefits (column 1 lines 52-60).

Thus, it is known to determine a change in resistance of travel (inclination) and at least partially adjusting vehicle control in response.

Regarding claim 14, Cikalo discloses that if an acceleration/deceleration input was detected at step 72, then at step 82 the PSC processor 16 uses set back gains (e.g. 80% of normal) to gradually bring the vehicle to the new desired speed, and at step 84, the PSC 10 updates the desired speed value (DS) according to the acceleration/deceleration input. The

acceleration/deceleration input can be via the foot pedal or an accelerate or coast button on the cruise control stem. Similarly, a resume input, common to conventional cruise controls, could also be a suitable input. The vehicle stays in fuel economy cruise mode until an exit condition, as described above, is detected (column 6 lines 29-38).

Thus, the uniform vehicle speed can be requested from the driver via accelerator pedal displacement.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cikalo, as applied to claims 11-14 above, and further in view of Moncelle (US 4,914,597).

Regarding claims 15-16, Cikalo does not explicitly disclose that the driver's manipulation of the accelerator pedal in a given time frame (1 to 8 seconds) sets the cruise control.

Moncelle teaches that the speed of the vehicle 38 may be varied by an accelerator or throttle pedal 40 which is controlled by an operator of the vehicle 38. The accelerator or throttle pedal 40 develops a signal on a line 42 which is coupled to a road speed limit and cruise control 44. The control 44 also receives inputs from a speed sensor 46 which detects the ground speed in miles per hour of the vehicle 38 as well as inputs from three switches 48, 50 and 51, a brake pedal 52 and a clutch pedal 54. When the switch 48 is closed, a signal is passed to the road speed limit and cruise control 44 to engage the cruise control mode of operation. When the switch 50 is momentarily closed, the current speed of the vehicle as detected by the speed sensor 46 is stored

in a memory 56 within the control 44. This speed comprises a speed command or set speed when operating in the cruise control mode. If this switch 50 is closed for longer than a predetermined time, for example one second, the set speed is increased with time until the switch 50 is closed. The switch 51, when momentarily closed, commands the control 44 to resume cruise control operation at the set speed which is stored in the memory 56 of the control 44. If the switch 51 is closed for longer than the predetermined time, the set speed is decreased with time until this switch is opened (column 4 lines 20-44).

The base invention of Cikalo is deficient, with respect to claims 15-16, in that it is not explicitly disclosed the cruise control features as embodied by said claims. Moncelle cures this deficiency by teaching that the user can set the desired cruise control speed by maintaining the accelerator position at a constant level for 1 second, as well as further teaching storing the driver demand value.

Thus, since both inventions both disclose/teach similar elements and usage, it would have been obvious to one of ordinary skill in the art at the time of the invention to simply substitute one apparatus into the other, or at least combine their respective elements, to achieve no more than the predictable result of a utilizing driver acceleration request to set the vehicle cruise control.

Combining prior art elements according to known methods to yield predictable results is a rationale to support a conclusion of obviousness. See MPEP 2143(A).

Simple substitution of one known element for another to obtain predictable results will support a conclusion of obviousness. See MPEP 2143 (B).

Regarding claim 17, Cikalo discloses that the PSC 10 performs the process of FIG. 3. Specifically, at decision block 50, the PSC 10 determines whether the vehicle is traveling at a sufficiently constant speed for a given time period using the subroutine of FIG. 4 Referring to FIG. 4 a prescribed maximum speed error E(max) and time constant (Tc) are stored in a suitable location in the memory module 18 are retrieved at step 52. Also retrieved from the memory module 18 at step 52 is the driver's desired speed (DS), which is the vehicle speed when the cruise mode was entered. As an example, the stored values could be DS=55 miles per hour, E(max)=0.5 miles per hour, and Tc=30 seconds, in which case the vehicle speed would have to be within 54.5-55.5 miles per hour to enter fuel economy cruise mode (column 5 lines 8-21).

Thus, it is disclosed storing the desired speed reflecting user request.

Regarding claims 18 and 19, Cikalo discloses that at step 54, the PSC 10 PSC processor 16 reads the value of the speed sensor 21 and sets a current speed (CS) value in the memory module 18 to the speed sensor value. Then at step 56 the PSC processor 16 computes the actual error (E) or difference between CS and DS (which is stored in the memory module 18). At step 58, the PSC processor 16 compares the absolute value of E to E(max). If E is less than E(max), then at step 60 the PSC processor 16 begins a timer count. If at step 62 the value of the timer is less than Tc, the counter is incremented at step 64. At step 66, the PSC processor 16 updates the value of CS according to the speed sensor and the computation of step 58 is again made. This continues until E is less than E(max) for Tc in which case the vehicle is traveling within the prescribed error, or until E is greater than E(max), in which case the vehicle is not traveling at a

sufficiently constant rate.Referring again to FIG. 3, if the vehicle is not traveling at a sufficiently constant rate, as step 68, the PSC 10 is returned to cruise mode using an algorithm with set back gains so as to limit the rate of change of the vehicle speed to less than the rate ordinarily allowed during the cruise mode. For example, a suitable algorithm would be that the throttle pull equals the present throttle pull plus some fraction (e.g. 40% of normal) of a cruise control error correction algorithm known in the art. The set back gain reduces power delivery requirements thereby improves fuel efficiency. Moreover, this prevents the vehicle from surging forward unexpectedly. Note that the reduced gain could be applied only for a prescribed time period after which the full value could be used (column 5 lines 23-50).

Thus, if the vehicle speed varies from the stored user parameters, the speed of the vehicle is altered in such a away to retain a level of fuel efficiency.

Regarding claim 20, Cikalo discloses that the PSC 10 performs the process of FIG. 3. Specifically, at decision block 50, the PSC 10 determines whether the vehicle is traveling at a sufficiently constant speed for a given time period using the subroutine of FIG. 4 Referring to FIG. 4 a prescribed maximum speed error E(max) and time constant (Tc) are stored in a suitable location in the memory module 18 are retrieved at step 52. Also retrieved from the memory module 18 at step 52 is the driver's desired speed (DS), which is the vehicle speed when the cruise mode was entered. As an example, the stored values could be DS=55 miles per hour, E(max)=0.5 miles per hour, and Tc=30 seconds, in which case the vehicle speed would have to be within 54.5-55.5 miles per hour to enter fuel economy cruise mode (column 5 lines 8-21).

Thus, it is disclosed that the deviation can be set at +/- 0.5 mph, or 0.805 kph. While this might not be "inclusive", as stated, the claimed embodiments lies within the disclosed prior art.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP at 2144.05.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN M. DAGER whose telephone number is (571)270-1332. The examiner can normally be reached on 0830-1800 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JD
19 January 2010

/Jack W. Keith/

Supervisory Patent Examiner, Art Unit 3663